

## **ABSTRACT**

### **Title:**

### **COMPARISON OF ULTRASOUND GUIDED TRANSVERSUS ABDOMINIS PLANE BLOCK AND CAUDAL EPIDURAL BLOCK FOR PAIN RELIEF IN CHILDREN UNDERGOING UNILATERAL INGUINAL HERNIOTOMY**

### **Introduction:**

Transversus abdominis plane block, is an abdominal field block which has emerged as a simple technique for providing post-operative pain relief in lower abdominal surgeries. It has been widely used in adults and its safety has been improved using ultrasound guidance. There was not much information on its efficacy in paediatric surgeries, in comparison to the most preferred caudal block.

### **Aims & Objectives:**

To evaluate the efficacy of the Ultrasound-guided Transversus Abdominis Plane Block in comparison with the Caudal Epidural Block, for pain relief in paediatric inguinal hernia repair surgeries

### **Methodology:**

Sixty patients belonging to the age group 1-7years, weighing 5-20kg undergoing unilateral inguinal herniotomy were randomly allocated into two groups. Group T (n=30) received USG-guided TAP block with 0.5ml/kg of 0.25% bupivacaine and Group C (n=30) received 1ml/kg of 0.25% bupivacaine, after institution of general

anaesthesia via ambu LMA. The intra-operative hemodynamics and analgesic requirement were recorded by a blinded investigator. Pain in the post-operative period was assessed using FLACC pain score. Time to first rescue analgesia, cumulative opioid consumption, along with the incidence of side effects were noted in the first 12hrs of the post-operative period. Statistical analysis was performed using SPSSv16.

### **Results:**

There was significant variation in heart rate and mean arterial pressure from the baseline in the intra-operative period in Group T, which required supplementation with fentanyl. Whereas the intra-operative haemodynamics were stable in Group C. The duration of postoperative analgesia was 8.6hrs  $\pm$ 1.84 in Group T, which was significantly more than that of Group C with a post-operative analgesia lasting for 4.57hrs  $\pm$ 1.406. The pain scores and the mean opioid consumption were significantly less with Group T than Group C up to 12hrs in the postoperative period. Time to urine voiding was prolonged in Group C when compared to Group T.

### **Conclusion:**

Caudal epidural block provided better intra-operative analgesia than USG guided TAP block for inguinal hernia repair. USG-guided TAP block provided prolonged post-operative pain relief than single shot Caudal epidural block and reduced the mean opioid consumption in the first 12 post-operative hours.

**Keywords:**

Ultrasound guided, Transversus Abdominis Plane block, Caudal Epidural Block,  
Paediatric, inguinal hernia repair, intraoperative analgesia, postoperative analgesia